Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Withdrawn): A method for eliciting an immune response in a vertebrate subject, said method comprising administering constructs carrying genomic DNA fragments from one or more pathogens to the subject in an amount sufficient to elicit an immune response against antigen encoded by a sequence contained in said genomic DNA fragments, wherein the genomic DNA fragments are greater than 5 kilobases in size.

Claim 2. (Withdrawn): The method of claim 1, wherein expression of coding sequences contained within the genomic DNA fragments is not driven by a heterologous promoter.

Claim 3. (Withdrawn): The method of claim 1, wherein the construct is a plasmid.

Claim 4. (Withdrawn): The method of claim 3, wherein the genomic fragments are between about 5 kilobases and 25 kilobases in size.

Claim 5. (Withdrawn): The method of claim 3, wherein at least one of the pathogens is a virus.

Claim 6. (Withdrawn): The method of claim 5, wherein the virus is herpes simplex virus-2 (HSV-2).

Claim 7. (Withdrawn): The method of claim 5, wherein the genomic fragments are from more than one Virus.

Claim 8. (Withdrawn): The method of claim 1, wherein the administering is by transdermal administration.

Claim 9. (Withdrawn): The method of claim 1, wherein the construct is a cosmid.

Claim 10. (Withdrawn): The method of claim 9, wherein the genomic fragments are between about 25 kilobases and 50 kilobases in size.

Claim 11. (Withdrawn): The method of claim 9, wherein at least one of the pathogens is a virus.

Claim 12. (Withdrawn): The method of claim 11, wherein the virus is herpes simplex virus-2 (HSV-2).

Claim 13. (Withdrawn): The method of claim 9, wherein the genomic fragments are from more than one virus.

Claim 14. (Withdrawn): The method of claim 9, wherein the administering is by transdermal administration.

Claim 15. (Currently Amended): A method for eliciting an immune response in a vertebrate subject, said method comprising:

(a) providing a core carrier coated with vector constructs carrying genomic DNA fragments ~~derived or~~:

(i) obtained from one or more pathogens;

(ii) which have at least 80% homology to the genomic fragment of (i); or

(iii) which are able to hybridize under stringent conditions to the genomic fragments of (ii),

wherein the genomic DNA fragments contain an antigen coding sequence, and ~~are greater than 5 kilobases in size~~ wherein the vector constructs are selected from the group consisting of a plasmid comprising a genomic fragment between about 5 kilobases and about 25 kilobases and a cosmid comprising a genomic fragment between about 25 kilobases and about 50 kilobases in size; and

(b) administering the coated core carrier to the subject using a particle-mediated transdermal delivery technique, whereby antigen encoded by a coding sequence present in the

genomic DNA is expressed in the subject in an amount sufficient to elicit an immune response.

Claim 16. (Original): The method of claim 15, wherein expression of coding sequences contained within the genomic DNA fragments is not driven by a heterologous promoter.

Claim 17. (Currently amended): The method of claim 15, wherein the vector construct is a plasmid and the genomic fragments are between about 5 kilobases and about 25 kilobases in size.

Claim 18. (Cancelled).

Claim 19. (Currently Amended): The method of claim 17 ~~claim 18~~, wherein at least one of the pathogens is a virus.

Claim 20. (Original): The method of claim 19, wherein the virus is herpes simplex virus-2 (HSV-2).

Claim 21. (Currently Amended): The method of claim 17 ~~claim 18~~, wherein the genomic fragments are obtained or derived from more than one virus.

Claim 22. (Original): The method of claim 15, wherein the core carrier has an average diameter of about 0.5 to about 5 μm and a density sufficient to allow delivery into the subject.

Claim 23. (Original): The method of claim 22, wherein the core carrier is comprised of a metal.

Claim 24. (Original): The method of claim 23, wherein the metal is gold.

Claim 25. (Original): The method of claim 15, wherein step (b) is repeated to provide a prime and a booster administration.

Claim 26. (Currently Amended): The method of claim 15, wherein the vector construct is a cosmid and the genomic fragments are between about 25 kilobases and about 50 kilobases in size.

Claim 27. (Cancelled).

Claim 28. (Currently Amended): The method of claim 26 ~~claim 27~~, wherein at least one of the pathogens is a virus.

Claim 29. (Original): The method of claim 28, wherein the virus is herpes simplex virus-2 (HSV-2).

Claim 30. (Currently Amended): The method of claim 26 ~~claim 27~~, wherein the genomic fragments are obtained or derived from more than one virus.

Claim 31. (Original): The method of claim 26, wherein the core carrier has an average diameter of about 0.5 to about 5 μm and a density sufficient to allow delivery into the subject.

Claim 32. (Original): The method of claim 31, wherein the core carrier is comprised of a metal.

Claim 33. (Original): The method of claim 32, wherein the metal is gold.

Claim 34. (Original): The method of claim 26, wherein step (b) is repeated to provide a prime and a booster administration.

Claim 35. (Withdrawn): A method for identifying a sequence encoding an antigenic polypeptide, the method comprising:

(a) administering one or more constructs carrying genomic DNA fragments from one or more pathogens to a subject, wherein the genomic DNA fragments are greater than about 5 kilobases in size and contain a coding sequence for said antigenic polypeptide and further wherein, upon delivery, the antigenic polypeptide is expressed from said coding sequence in an amount sufficient to elicit an immune response; and

(b) identifying the coding sequence on the construct which encodes the antigenic polypeptide.

Claim 36. (Withdrawn): The method of claim 35, wherein step (b) comprises administering one or more fragments of the constructs of step (a) and identifying which fragment encodes the antigenic polypeptide.

Claim 37. (Withdrawn): The method of claim 35, wherein step (b) comprises sequencing the construct.

Claim 38. (Withdrawn): A vaccine composition comprising one or more constructs containing genomic DNA fragments obtained or derived from one or more pathogens, wherein the genomic fragments are greater than 5 kilobases in size and contain at least one antigen coding sequence.

Claim 39. (Withdrawn): The vaccine composition of claim 38, wherein the construct is a plasmid.

Claim 40. (Withdrawn): The vaccine composition of claim 39, wherein the genomic fragments are between about 5 kilobases and about 25 kilobases in size.

Claim 41. (Withdrawn): The vaccine composition of claim 38, wherein expression of coding sequences contained in the genomic DNA fragments is not driven by a heterologous promoter.

Claim 42. (Withdrawn): The vaccine composition of claim 38, wherein at least one of the pathogens is a virus.

Claim 43. (Withdrawn): The vaccine composition of claim 42, wherein the virus is herpes simplex virus-2 (HSV-2).

Claim 44. (Withdrawn): The vaccine composition of claim 42, wherein the genomic fragments are from more than one virus.

Claim 45. (Withdrawn): A vaccine composition comprising nucleic acid constructs carrying genomic DNA fragments from herpes simplex virus-2 (HSV-2).

Claim 46. (Withdrawn): The vaccine composition of claim 45, wherein expression of coding sequences contained within the genomic DNA fragments is not driven by a heterologous promoter.

Claim 47. (Withdrawn): The vaccine composition of claim 45, wherein the construct is a plasmid.

Claim 48. (Withdrawn): The vaccine composition of claim 47, wherein the genomic fragments are between about 5 kilobases and 25 kilobases in size.

Claim 49. (Withdrawn): The vaccine composition of claim 45, wherein the construct is a cosmid.

Claim 50. (Withdrawn): The vaccine composition of claim 49, wherein the genomic fragments are between about 25 kilobases and 50 kilobases in size.

Claim 51. (Withdrawn): The vaccine composition of claim 45, wherein at least one the said genomic DNA fragments from HSV-2 corresponds to the sequence extending from the 7th to 10th EcoR1 sites shown in Figure 1.